

mt



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,310	04/19/2004	Yong Sung Ham	8734.025 C1	9810
30827	7590	08/08/2006	EXAMINER	
MCKENNA LONG & ALDRIDGE LLP			WU, XIAO MIN	
1900 K STREET, NW			ART UNIT	
WASHINGTON, DC 20006			PAPER NUMBER.	

2629

DATE MAILED: 08/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/826,310

Applicant(s)

HAM, YONG SUNG

Examiner

XIAO M. WU

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,5-8,15-18,20 and 21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-8,15-18,20 and 21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/24/2006 has been entered.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2, 6-8, 15-16, 18 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Kusano et al. (US Patent No. 5,677,704).

As to claims 1, 7, 18 and 21, Kusano discloses a method of driving a liquid crystal display, comprising: modulating source data (e.g. 30A, 30B, 30C, 30D, Fig. 3) of one frame period using registered data from a frame period previous to the one frame (e.g. the 4-bit image data or frame data are registered data from a frame period previous to the frame using 3-bit frame data) and supplying the modulated data (e.g. the first frame and the second frame data are modulated data) to a liquid crystal panel in a first field (e.g. first frame and second frame) and applying data (e.g. the source data 30A, 30B, 30C are unchanged) different from the modulated

Art Unit: 2629

data to the liquid crystal panel in a first field (e.g. third frame, see the TABLE 2 as shown in column 8).

As to claims 2, 8, Kusano discloses the data applied to the liquid crystal panel at the later period is the source data (e.g. 30A, 30B, 30C)

As to claim 6, Kusano discloses the source data (e.g. the data without modulation in the frame) are not applied to the liquid crystal panel while the modulation data are applied thereto (e.g. the modulated data in the first and second frame are displayed in the first and second frame periods which are different from the third frame period) .

As to claim 15, it would have been obvious to have a delay circuit for delay one field of data while another field of data are applied to the liquid crystal panel so that the second field of data can be displayed following the first field of the data.

As to claim 16, Kusano further discloses a data driver and a scanning driver (30, Fig. 2).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5, 17, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kusano et al. (US Patent No. 5,677,704) in view of Aoki et al. (US Patent No. 4,775,891).

As to claims 5, 17 and 20, it is noted that Kusano discloses using three sub-frame for displaying the image data and not two sub-frame. Aoki is cited to teach a liquid crystal display device similar to Kusano. As shown in Figs 2 and 3, Aoki discloses that the image data can be

Art Unit: 2629

display in two sub-frame. It would have been obvious to one of ordinary skill in the art to have modified Kusano with the features of using two sub-frame as taught by Aoki such that the frame control circuit can be simplified.

***Response to Arguments***

6. Applicant's arguments with respect to claims 1-2, 5-8, 15-18 and 20-21 have been considered but are moot in view of the new ground(s) of rejection.


7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to XIAO M. WU whose telephone number is 571-272-7761. The examiner can normally be reached on 6:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, RICHARD HJERPE, can be reached on 571-272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

x.w

August 4, 2006



**XIAO M. WU**  
**Primary Examiner**  
**Art Unit 2629**